W5YI

Nation's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

Fred Maia, W5YI, Editor, P.O. Box 565101, Dallas, TX 75356-5101
Tel. 817-461-6443 Electronic mail: fmaia@internetMCI.com

★ *In This Issue* ★

Vol. 18, Issue #10 **$1.50** PUBLISHED TWICE A MONTH **May 15, 1996**

Frequency Coordinator's Move Towards Organizing their Group

Last fall, amateur radio repeater coordinators representing most of the state and multi-state repeater coordinating organizations met near St. Louis, Missouri. The meeting, called by the American Radio Relay League, was to provide the FCC with a single point of contact (SPOC) for all repeater systems operating throughout the United States.

The October 7th meeting was chaired by ARRL Rocky Mountain Director, Marshall Quiatt, AG0X of Denver, Colorado. The League said it was committed to local and regional coordination both in principle and in practice.

There appeared to be a difference of opinion as to who requested that the FCC be provided with a single point of contact with the coordination community. The ARRL said that the FCC requested the SPOC. But Ralph Haller, N4RH, FCC Deputy Bureau Chief, Wireless Telecommunication Bureau said he did not think the amateur frequency coordination process was broke and the FCC did not request the SPOC discussion for the coordinators meeting.

He did say, however, that he would like to provide a mechanism that recognizes coordinators. He envisioned an umbrella organization that would act as an interface with the Commission. This organization would keep track of coordinators, be a point of review of coordination problems and would put together a manual of proper coordination procedures. He mentioned that APCO acts as the interface between commercial frequency coordinators and the FCC. "The FCC simply does not have the resources to talk to everyone.," he said.

There was general agreement at the meeting that a single point of contact would be a good idea. The question became, who should it be? There were three possibilities considered: the ARRL as the SPOC, organize a separate umbrella organization or establish an independent organization with ARRL collaboration. Those in attendance voted that the League should be the SPOC ...followed by option No. 3: establishing an organization similar to AMSAT. A blue-ribbon panel consisting of representatives of five large coordinating bodies was appointed to develop the framework for the SPOC.

After six months of deliberation, this committee, headed up by T-MARC's Owen Wormser, K6LEW, has now developed three well done and very professionally completed documents. Obviously completed by a lawyer, we were very impressed by their quality. Their approach looks toward establishing the National Frequency Coordinator's Council, NFCC. They decided on this direction since it was the only option that seemed to have widespread agreement among the nation's amateur service frequency managers. It apparently was not their first choice.

The National Frequency Coordination Council,

THE W5YI REPORT [Pub. No. 009-311] is published twice monthly by The W5YI Group, 2000 E. Randol Mill Rd, #608A, Arlington, TX. 76011
SUBSCRIPTION RATE: (U.S., Canada and Mexico) One Year (24 issues) $24.50 • Two Years: $45.00 • Three Years: $64.00. Tel. 817/461-6443
Foreign Subscriptions via Air Mail: $39.50 per year. (Payment may be made by Check, Money Order, VISA or MasterCard payable in U.S. funds.)
Second Class Postage paid at Arlington, TX. **POSTMASTER:** Send address changes to THE W5YI REPORT, P.O. Box 565101, Dallas, TX. 75356

Inc. is in the process of being incorporated in the District of Columbia as a nonprofit corporation.
The corporate By-Laws and Articles of Incorporation indicate that the purpose of the organization is:

(1) To facilitate the exchange of information and general cooperation between members, the Federal Communications Commission (FCC), the American Radio Relay League, Inc., (ARRL), and any other legislative or regulatory arm of the Federal government pertaining to the Amateur Radio Service, and specifically the coordinated use of repeaters and other relay devices and systems, and amateur stations using shared bands utilized by fixed-station repeater and relay devices and systems. Such information would include such things as lists of frequency coordinators; proposed and current policies, procedures and regulations pertaining to coordinator certification, decertification, and succession of coordinators; proposed and current federal policies affecting Amateur Radio systems operations; pending and current FCC submissions and determinations, including Petitions for Rule Making, Notices of Proposed Rule Making, and Report and Order releases affecting Amateur Radio repeater and relay systems and the cooperative coordination of the same for interference avoidance.

(2) To operate as, or to facilitate, a Single-Point-Of-Contact (SPOC) between the FCC and the Amateur Radio frequency coordinating community.

(3) To promote responsible coordination and/or use of Amateur Radio operations at any frequencies authorized for repeater or other unattended operations, where such operations are operating, and provide a service to the Amateur Radio population in the given area.

(4) To facilitate arbitration of disputes involving Amateur Radio frequency coordination. This will be accomplished by encouraging local resolution of disputes as well as appointment of arbitrators to conduct binding arbitration in accordance with the American Board of Arbitration procedures; the costs of such to be borne by the parties to the arbitration.

The by-laws state that corporation members will be Amateur Radio licensees who are volunteer frequency coordinators who represent specific geographic areas. The Articles of Incorporation further defines members as "Any recognized state coordination councils, state organizations, regional coordination councils, or individual state-wide or regional coordinators [and] ...digital coordinating entities who currently perform coordination of auxiliary, repeater or simplex Amateur Radio frequencies above 29 MHz and listed in the 1995/1996 ARRL Repeater Directory are qualified to be charter members of the NFCC. ...Charter membership approval shall be considered to be reciprocally granted by all ratifying NFCC members. All subsequent applications for membership must be approved by the Board of Directors, which will be known as the NFCB, and ratified by a vote of not less than two-thirds of the voting NFCC membership."

A member must pay dues by a published deadline to be eligible to vote on any matter. A member whose dues payments are in arrears will be considered a non-voting member and will not be allowed to vote on any NFCC business. While it has not been decided how much each coordinating organization will be assessed, the amount will probably be linked to the number of repeaters coordinated and/or users.

Each NFCC member shall have a number of votes based on the percentage of the total U.S. Amateur Radio license holders within the geographic area coordinated by the representative's organization. Each representative shall have at least one vote and one additional vote for each five-tenths percentage of U.S. area. Thus, coordinators serving larger regions will have more votes.

All proposals concerning Amateur Radio band plans, frequency coordinator standards, certification, succession and recognition; frequency coordination and decoordination procedures must be approved by a minimum of seventy-five percent of the NFCC.

The internal affairs will be governed by a Board of Directors consisting of five delegates of NFCC representing voting members. Directors shall serve non-concurrent two-year terms, with no more than three directors being elected in any given year [after the first year's election.] The Chairman of the Board of Directors is elected for a one-year term of office (not to exceed six consecutive terms in that capacity) by the elected Directors.

The NFCB shall establish and oversee administration of the National Frequency Coordinators' Office (NFCO). The NFCO shall operate under the direct supervision of the Chairman of the Board and shall conduct all daily operations necessary to the stated purposes of the NFCC and in accordance with any Memorandum of Understanding and other policy statements adopted by the Board of Directors or the NFCC.

Until the first annual meeting can be held, the by-laws call for the Board of Directors to be: Owen Wormser, K6LEW (Alexandria, VA), George R. "Dick" Isely, WD9GIG (St. Charles, IL), Whitman Brown, WBØCJX (Golden, CO), Paul Gilbert, KE5ZW (Huntsville, TX), Jim Fortney K6IYK (Camarillo, CA) and Bill Kelsey WA6FVC (Pasadena, CA.) The initial registered agent and office of the corporation will be: Christopher D. Imlay, N3AKD

who is the ARRL's Washington, DC attorney.

This does not necessarily mean that the ARRL has agreed to the terms of the proposal. The Articles of Incorporation and By Laws do not really affect the League. All that the ARRL has to agree to is the Memorandum of Understanding. Chris Imlay, of course, has already seen the MOU. Chris, at this point, has only been involved with the Washington, DC incorporation process and has made suggestions on the corporate by-laws.

It is unknown as to whether the ARRL directors will go along with the MOU. At their January BOD meeting, the directors said they would continue dialogue with the coordinator's drafting committee. That dialogue has yet to take place, we were told.

The St. Louis coordinator's meeting mandated that the committee draft documents that would accommodate the League as being the first alternative for the establishment of the SPOC. At the time, however, the League was the committees's only alternative. Some very large coordinating bodies said they would not participate in the SPOC concept if the ARRL was chosen. But since then, other alternatives have surfaced. What those are, however, have not been disclosed to us.

While no part of the net income of the corporation shall benefit its directors, officers, or other private persons, the NFCC can pay for services rendered in furthering its purposes. No substantial part of its funds may be used to influence legislation or intervene in any political campaign.

The following is a verbatim copy of the proposed Memorandum of Understanding between the NFCC and the ARRL:

MEMORANDUM OF UNDERSTANDING BETWEEN THE NATIONAL FREQUENCY COORDINATORS' COUNCIL AND, THE AMERICAN RADIO RELAY LEAGUE

FORWARD

The National Frequency Coordinators' Council (NFCC) and the American Radio Relay League, Inc. (ARRL) share the desire to enhance recognition of Amateur Radio frequency coordination by the Federal Communications Commission (FCC), the ARRL, and all Amateur Radio Service (ARS) licensees.

PURPOSE

This document states the terms of agreement between the NFCC and the ARRL defining how volunteer personnel within the NFCC community and employees of the ARRL will coordinate services.

DEFINITIONS

American Radio Relay League (ARRL): The ARRL is a non-commercial membership association of radio amateurs, organized for the promotion of interest in Amateur Radio communication and experimentation, for the establishment of networks to provide communications in the event of disasters or other emergencies, for public service in any form, for the advancement of the radio art and public welfare, for the representation of the radio amateur in legislative matters (both national and international), and for the maintenance of fraternalism and a high standard of conduct. A primary responsibility of the Amateur Radio Service, as established by FCC Rules and Regulations (47 C.F.R. Part 97), continues to be the provision of public service communications for the general public, both primarily and supplementally through government and relief agencies, for more than 50 years.

NFCC: The NFCC is comprised of delegates from recognized frequency coordination entities.

National Frequency Coordinators' Office (NFCO): The NFCO is the administrative entity acting on behalf of the NFCC as the single-point-of-contact (SPOC). The NFCO serves as the national information exchange between, the ARS frequency coordinators and, inclusive of, but not limited to; the FCC, other government agencies, non-ARS frequency coordination entities, the ARRL, and the ARS community-at-large.

OBJECTIVES

The NFCO will:

1. Serve day-to-day as a primary channel for communications between the FCC and the radio Amateur community-at-large in all matters affecting frequency coordination.
2. Serve as a primary, national repository for all information affecting frequency coordination.
3. Maintain the national data base for all coordinated operations.
4. Serve as a primary national repository for all information affecting coordinator certification, de-certification, and coordinator succession.
5. Serve as a primary national-level educational resource for matters affecting Amateur Radio frequency coordination.
6. Serve as Amateur Radio's primary source of contact with the FCC for Petitions for Rule Making as these effect frequency coordination.

NFCO RESPONSIBILITIES

Education: Serves as an informational ARS resource whose responsibilities include, but are not limited to, timely disclosures of the following:

a. State or regional frequency coordination points of contact.
b. Policies and procedures pertaining to coordinator certification, de-certification, and succession of coordinators
c. Known Federal Government intentions that may affect ARS operations as pertaining to ARS frequency coordination.
d. FCC Notices of Proposed Rule Making (NPRM), as well as Notices of Inquiry (NOI), and brief summaries of their content as pertaining to ARS frequency coordination.
e. Known Report and Order releases affecting the ARS, as pertains to ARS frequency coordination.
f. Known FCC regulations, rulings, and lay interpretations as pertains to ARS frequency coordination.

RECOGNITION

The NFCC recognizes the ARRL as the principal organization representing the interests of more than 600,000 US radio amateurs, and, that the ARRL can be of valuable assistance in providing national-level, administrative support to the NFCC through operation of an NFCO.

The ARRL recognizes the NFCC as a responsible

organization representing the interests of the frequency coordination community and that the NFCC provides direction to the ARRL for the operation of the NFCO.

DISSOLVING THE NFCO

Dissolving the NFCO is the responsibility of the NFCC in consultation and coordination with the ARRL and the FCC.

AGREEMENT

Due to significant resources of the ARRL being expended in the NFCO capacity the ARRL and NFCC agree to the following:

a. The ARRL agrees to provide sufficient office space, standard office equipment, and office support tools, i.e. access to telephone service, on-line electronic access, copying and reproduction resources to permit the NFCO to function initially without the need for outside resources. The ARRL agrees that it will, initially, support the financial costs associated with maintaining the NFCO and will do so until such time, and if deemed necessary, the NFCC can assume this responsibility. To determine such costs, the NFCC will provide the ARRL Board of Directors with a proposed annual operating budget. Providing ARRL resources for the NFCO will be at the sole discretion of the ARRL Board of Directors.
b. The ARRL agrees to provide sufficient trained staff personnel, on an as-available basis, to perform the duties and functions associated with the NFCO.
c. The NFCC agrees to provide members to serve on its Board of Directors. The ARRL agrees that it will assume the financial costs associated with maintaining the Board of Directors and will do so until such time, and if deemed necessary, the NFCC can assume this responsibility.
d. The ARRL and the NFCC have agreed that the American Radio Relay League, Inc., its employees, elected officers, or other designated agents will not create, establish, or modify any frequency coordination policies, standards or procedures.
e. The NFCC and ARRL agree to abide by all Federal Rules and Regulations affecting Amateur Radio coordinated operations.
f. The NFCC and ARRL understand that the tasks associated with Amateur Radio frequency coordination may incur exposure to liability. To address these concerns, the ARRL's good offices and resources will continue to pursue, among other options, legislative changes necessary to append a sentence at the end (47 USC 154(f)(4)(C)(iii)) stating that Amateur Radio operators functioning under this Section are granted immunity from criminal or civil actions (local, state and federal) while providing their prudent, best-faith efforts in this capacity.

IMPLEMENTATION, AMENDMENT, AND TERMINATION

This Memorandum of Understanding shall take effect upon signature by authorized officials of the ARRL and NFCC. This MOU may be amended by mutual agreement of both parties, and will remain in effect until terminated. The ARRL and NFCC will periodically review this agreement and coordinate such revisions as may be necessary. Upon 90 days written notice, this MOU may be terminated by either party. The ARRL agrees to return, to the NFCC, all NFCC and NFCO records by date of termination.

COMMERCIAL RADIO OPERATOR OPPORTUNITIES

On April 25th, the FCC adopted new Part 80 rules applying to ships sailing the Great Lakes that are subject to an annual inspection. (FCC Order, Docket 95-54.) Owners and operators of these vessels will now have these inspections performed by an FCC licensed commercial radio operator instead of the Commission staff.

"These changes," the FCC said, "will reduce economic burdens on the public and the FCC, and will increase the availability of competent, private sector inspectors to conduct Great Lakes Agreement inspections without adversely affecting safety and, thus, provide greater convenience for the maritime industry."

The Great Lakes Agreement, a treaty between the United States and Canada, requires all vessels over 20 meters (65 feet), most towing vessels, and all vessels carrying more than six passengers for hire to be equipped with a properly operating marine VHF radio.

Under the newly adopted rules, any United States ship subject to the Great Lakes agreement may arrange for an inspection of the radiotelephone installation by the holder of an FCC commercial radio operator's license requiring an examination in electronic techniques.

These licenses include the General Radiotelephone Operator License (GROL), the GMDSS Radio Maintainer's license or the First or Second Class Radiotelegraph Operator's Certificate. In accordance with the new rules, that person must certify in the ship radiotelephone log that the ship has passed the inspection.

In addition, the FCC has proposed new rules regarding the inspection of radio equipment on large cargo and small passenger ships to conform to the Telecommunications Act of 1996. The new law permits private sector radio installation inspections.

The FCC said that privatization of ship inspections will increase the number of inspectors and will permit ship owners and operators to arrange for inspections at any time or place. The Commission's proposal for privatization will not affect safety. Two separate certifications will be required verifying that the ship has passed the safety inspection. Additionally the FCC is coordinating the rulemaking with the U.S. Coast Guard.

Currently, the Commission inspects the radio installations of approximately 1,100 vessels each year. The proposed rules will allow ship owners or operators to arrange for an inspection by an FCC-licensed technician, and thus, provide ship owners with greater flexibility in arranging for inspections by making more qualified inspectors available to conduct radio inspections in convenient locations. FCC contact on the above Order and NPRM is George R. Dillon of the Compliance and Information Bureau at: 202/418-1100. The FCC has requested comments from the public on their Notice of Proposed Rulemaking (FCC Docket No. 95-55.)

EMERGING TECHNOLOGY

■ Web browsing on your living room television! **Motorola has begun shipping its new cable-TV modem which allows high speed Internet access.** Hewlett-Packard (and others) also have them coming. New modems will add $25 to $40 to your monthly cable bill.

■ **A new $49 software product called Web Translator** (Globalink, Fairfax, VA) lets people translate English web pages into Spanish, German or French and vice versa.

WASHINGTON WHISPERS

■ **A bill has been introduced into Congress that will allow software firms to sell stronger encryption systems overseas.** The Clinton administration has been opposed to the export of secure systems fearing that terrorists would use them for clandestine communications. The stronger schemes are needed, however, to permit electronic commerce and banking on the Internet.

■ **The Telecommunications Reform Bill, in our opinion, signals the beginning of an FCC trend** toward low-power unlicensed services. The Communications Act has now been amended to permit use of citizens band, radio control, and small aircraft/marine radios without individual licensing. And the Act gives the FCC the power to define what constitutes a CB, radio control, aircraft and ship station.

The land-mobile General Mobile Radio Service was fashioned from the old Class A 460 MHz Citizens Band. GMRS users are terrified they may be returned to that status. In any event, it appears that the FCC will indeed be adopting its proposal for a "Family Radio Service" which permits 500-milliwatt unlicensed two-way personal radios to operate on currently unused 462 and 467-MHz GMRS spectrum.

The FCC envisions that FRS will "...provide most small groups, such as families, friends, and associates, with good quality voice communications over a range of a few city blocks. It would facilitate activities around the home, at group outings, and at group activities where members become separated, either planned or inadvertently. It would also be useful to hunters, campers, hikers, bicyclists, and other outdoor activity enthusiasts." (From paragraph 7 of NPRM.)

The Family Radio Service is basically the work of Bob Miller/AA5FL and Jessie Slayton/WB5NGT, both executives at Fort Worth, TX-based Tandy Corp./ Radio Shack. The Consumer Electronics Group of the Electronic Industries Association agrees that there is significant support for creating the FRS. It also has the backing of the Telecommunications Industry Association, Uniden America, Cobra Electronics and Motorola, Inc.

The Notice of Proposed Rulemaking seeking to implement FRS was issued last August. It should be coming up for a final Commission decision any day now.

NEWS FROM THE INTERNET

■ **It looks like Microsoft is abandoning its early plans for the Microsoft Network (MSN).** Instead of a propriety content service with Internet access like American Online, MSN (like Prodigy) will migrate to the World Wide Web. Microsoft will soon begin charging a flat fee of $6.95/month for its WWW programming which does not include Internet access. MSN, which started last August as an online service at $4.95/ month for three hours plus $2.50 for each additional hour, is to have their proprietary service phased out within a year.

■ The Netscape (Version 2.0) web browser has only been out about three months. **Now comes word that Netscape 3.0 (previously code-named "Atlas") with 75 new features will be introduced later on this month.** A new collaboration feature will allow users to share (and work on) the same document simultaneously and talk (vocally) to each other at the same time! A new (free) electronic digital ID certification system (called VeriSign) will also be included. It can be used like a driver's license to authenticate your identity. Cost of the new Version 3.0 will be $49.

■ **Microsoft has just begun Beta testing their new Explorer Version 3.0 browser** which should ship this summer. They continue to lag far behind Netscape. But a trade publication (Computerworld) said experts expect them to be in a dead heat within two years. Reason? Bill Gate's "bucks" and determination. Netscape got their huge start by permitting Internet service providers (ISP) to give their customers a free copy of Netscape 1.x. When they sign on, they end up at the Netscape website and are invited to download Netscape 2.0. Like it or not, Netscape has become the browser standard ...just like Microsoft *Windows* is the PC operating system standard. And Netscape has a very big advantage. It runs equally well on Macintoshes and Unix workstations both of which are used in the academic community frequented by young people. Neither company, by the way invented the Web. While the U.S. Department of Defense is recognized as the Internet creator, the World Wide Web came out of a relatively small computer lab in Switzerland.

■ **And light-weight, piece meal "modular" browsers are on the way!** Netscape (and others) will not only be offering more features ...but some intentionally with less! It is getting to the point that they are getting too "fat!" Slimmed down versions will be available without such features as E-mail, video and audio support.

■ **Para-sites raid search engines.** Two Florida State University Department of Communication Ph.D candidates, (Jamie Murphy and Brian L. Massey) wrote an interesting article on what they call "para-sites." The story, carried in the New York Times, tells about World Wide Web search engines that are actually scavengers. The para-sites basically repackage existing search engines under their own banner generally without the ads that finance their owners.

"Legitimate" search engines work by sending out robot information gatherers (known as "web spiders") to seek out and catalog information on the Internet. Search engines then display links to all the sites that contain requested key words or phrases. Most search-engine sites (such as Yahoo!) began as experiments in some university's computer science department.

Due to the number of visits or "hits" they receive, they also serve as a big source of advertising revenue ...up to $20,000 to $50,000 a month.

"Two of the para-sites -- MetaCrawler and Savvy Search -- deliver all the data accumulated by the search engines but strip out ads. A third, the All-4One Search Machine, keeps the ads intact but places the results of four search engines in four frames on the same screen, which can make the ads hard to see."

A big advantage of para-sites is that they let you search all databases with a single query. Some people think they do more good than harm for the search engines they raid. For one thing, search engines get more hits through the links. Advertisers are naturally unhappy, however, if their ads are stripped. And multiple simultaneous searches can slow down the Internet. Some of the para-sites are the "All4One, MetaCrawler, Search and Savvy Search. The legitimate search engines are: AltaVista, Excite, Galaxy, InfoSeek, Inktomi, Lycos, Magellan, Open Text, WebCrawler, and Yahoo!

■ **Yahoo has a new (and very useful) service which allows you to easily locate telephone numbers, addresses, zip codes, E-mail addresses and web pages.** You just call up: http://www.yahoo.com/search/people and fill in what you know about the person (such as a name, city ...whatever.) Up quickly up pops the needed information. Database America, working with Yahoo, has listed 90 million white page phone numbers alone. Netscape will have a button link to this database in their new Version 3.0. The national online telephone list isn't popular with everyone, however. The first version showed even unlisted telephone numbers! They have now been de-listed and are shown as "suppressed." But some people who used to have published numbers ...and later unlisted them - may find that they are still listed!

PERSONAL COMPUTER STUFF

■ Prices are going down again! **Intel just slashed the prices of its 100-MHz Pentium microprocessor by one-third!** Watch for "new" inventory in the stores. Intel has a long-standing policy of reducing its prices every quarter. Their pricing policy is the same as department stores: Sell the newer/faster chips at a premium ...markdown the older "styles." The fast chips these days operate at 200 MHz.

■ **Apple Computer's Vice Chairman, A. C. "Mike" Markkula just sold 500,000 shares of Apple stock at $24.75.** Does he know something we don't? He still has 3.1 million shares.

■ **Now we are hearing that PC sales are not as bad as first thought!** The Wall Street Journal is reporting that U.S. personal computer sales were up 15% overall in the first quarter. Compaq had a 42% gain, Gateway 2000: 47%. The big winner, however, was Hewlett-Packard with a 132% increase in PC shipments. (They have only been in the business a year.) On the other hand, Apple shipped 22% less machines and Packard-Bell had only a 5% gain.

THE ONLINE WORLD

■ Rupert Murdoch's **News Corp., just sold the Delphi Internet Service - a service it acquired in 1993 with MCI** to its Delphi employees. Both News Corp., and MCI are among those shying away from the online business. They now prefer to put their financial eggs into the DBS (Direct Broadcast Satellite) basket.

Don't be surprised if you see cable TV giant TCI getting together with News Corp and MCI which own a valuable DBS orbital slot covering all of the U.S. After paying $682 million at an FCC spectrum auction, they plan to begin operating American Sky Broadcasting (consumer entertainment programming) and SkyMCI (business data service) next year. TCI has been trying to get Canada to let it use its slots and News Corp., and MCI have complained to the FCC. The end result may be a three-way partnership.

AMATEUR RADIO

■ **Confidential Stuff!** Our overseas sources tell us that a twenty-page (April 1996) **International Amateur Radio Union report from the Future of the Amateur Service Committee reviewing the international radio regulations** includes in paragraph 9.14: "On that basis, the Committee has concluded that S25.5 should be removed as a treaty obligation of administrations." S25.5 is the new reference number for the international law that requires amateurs to be Morse proficient when operating at HF frequencies.

So it appears that the FASC is supporting removal of the international regulation on Morse code testing, at least that is their stated position in the first discussion paper.

The FASC is an international panel looking into the needed changes in the international radio regulations ...other than spectrum issues. The report was prepared for consideration by the member societies around the world. Three of its seven members are from the United States: Dick Baldwin (W1RR), Larry Price (W4RA) and Dave Sumner (K1ZZ) with one member each from Australia, Canada, New Zealand and the UK.

■ **In a plea bargain arrangement, computer hacker Kevin D. Mitnick, N6NHG pleaded guilty** April 22 to one count of illegally using 13 stolen numbers to dial into computer databases. He had been charged with 23 counts of computer fraud including penetrating some of the nation's most protected computer systems, stealing cellular telephone and credit card numbers, possessing other people's driver's licenses and probation violation.

Mitnick, 32, has been held without bail in a downtown Los Angeles federal jail since being arrested more than a year ago in Raleigh, N.C. after a two year electronic manhunt. He was caught Feb. 15, 1995, using a cellular telephone lashed to the Internet to dial into computer networks by another expert whose home computer he violated

Mitnick faces a maximum of 20 years in prison, but with the plea bargain, it probably will be a lot less. U.S. District Judge Mariana Pfaelze has set July 15th for sentencing. N6NHG has been in-and-out of jail several times on hacking charges.

As a teenager he infiltrated the super secret North American Air Defense Command (NORAD) which watched for Soviet missile launches and directed American nuclear missile systems and bomber wings around the world. He was convicted of stealing $1 million in software from Digital Equipment Corp. in 1988. In 1992, he skipped southern California and an arrest warrant was issued for probation violation.

Security experts believe Mitnick is more of a nuisance than a criminal or terrorist since he appears to be motivated by the challenges of secure systems. The government has portrayed him as a threat to national security. He has never profited from his escapades.

■ **The W5YI Group, Inc., has a new World Wide Website** at: http://www.w5yi.org It works best using Netscape 1.2 and 2.0. Although it has many features (including free classified advertising), its focus is on amateur and commercial radio training/testing.

UNLICENSED NII BAND/SUPERNET DEVICES

On April 25, the FCC took a new step to increase the spectrum available for radio transmission over short distances without licenses. The Commission proposed to provide 350 MHz to "NII/SUPERNet devices" in two bands in the 5 GHz portion of the spectrum (5000 MHz). One of the bands is shared with the Amateur Service.

The FCC based its proposal on petitions filed by Apple Computer, Inc. for a National Information Infrastructure Band ("NII Band") and by the Wireless Information Networks Forum (WINForum) for a Shared Unlicensed Personal Radio Network (SUPERNet).

WINForum is a trade association concerned with Private Branch Exchanges (PBX) that have cordless handsets. Its principals include Nortel, AT&T, Motorola, Ericsson and other makers of telephone and data equipment.

The Apple and WINForum petitions envision self-provided communications on an entirely unlicensed basis, without the service fees typical of cellular telephone, Personal Communications Services (PCS), or other licensed providers. The proposals are modeled on the unlicensed High Performance Radio Local Area Networks (HIPERLANs) to be implemented in the 5 GHz band in Europe.

NII/SUPERNet devices are expected to permit high data rates at distances up to 100 meters, at a power level limited to 100 milliwatts EIRP (Effective Isotropic Radiated Power). FCC staff originally announced a 10 milliwatt level. They corrected the figure later in the day, but some erroneous news reports may already have been published.

Upsetting to proponents of "community networks" - local and regional BBS and Internet services providing citizen information and discussion areas - is the fact that the FCC declined to propose higher power as requested by Apple. Higher power would permit wireless community networks with transmission range up to 15 km. Commission staff said that their Notice of Proposed Rule Making (NPRM) will "ask the question" about whether and how higher power could be allowed.

FCC Office of Engineering and Technology Chief Richard Smith even suggested that the higher-power systems "could and likely would" be licensed and auctioned to the highest bidder -- an outcome clearly not intended by Apple. The FCC has raised approximately $20 billion to date by auctioning radio licenses.

Presentation to the Commissioners by Thomas Derenge, FCC Office of Engineering and Technology:

"Good morning, Mr. Chairman and Commissioners. The item before you responds to petitions filed by Apple Computer, Inc. and the Wireless Information Networks Forum (WINForum). The item proposes to make available spectrum for use by a new category of unlicensed equipment, called NII/-SUPERNet devices.

"NII/SUPERNet devices would provide short-range, high-speed wireless digital information transfer such as data, video and imaging. These devices would facilitate inexpensive wireless access to the Information Superhighway and would foster the development of a broad range of new digital devices, which would particularly benefit entities such as schools, health care providers, libraries and small businesses..

"Additionally, this action would stimulate the growth of new industries, and would promote the ability of U.S. manufacturers to compete globally by enabling them to develop new computer-related products for the world market.

"NII/SUPERNet devices would provide radio-based local-area networks to permit flexibility in the establishment and operation of multimedia networks, which could include PCs, laptops, workstations and servers. For example, educational institutions will be able to establish broadband wireless networks between classrooms, thereby providing cost-effective access to a array of multimedia services on the Internet, without having to run wires the last 50 to 100 meters within a school.

"Even grade-school children will be able to benefit from this access, by learning from the vast resources of the Information Superhighway such as entire online libraries.

"Specifically, we propose to make available 350 MHz of spectrum in the 5.15-5.35 GHz and the 5.725-5.875 GHz bands for these unlicensed NII/SUPERNet devices. We believe this spectrum would be sufficient to meet the growing demands for high-speed data transfer created by recent advances in computer and telecommunications technologies.

[Editor's note: The Amateur Service has a secondary 5-cm allocation at 5.650-5.925 Ghz with amateur satelite downlinks at 5.83-5.85 GHz. This band is shared with ISM, Industrial, scientific and medical devices, maritime radar and the radiolocation service.]

"Further, in order to permit significant flexibility in the design and operation of these devices, the item proposes only minimal technical regulation such as power limits, out-of-band emission limits, and a basic listen-before-talk protocol standard. We believe these minimal technical standards will enable multiple uses of the spectrum, facilitate sharing with incumbent services, and protect operations in adjacent bands.

"We also encourage the industry to develop any additional protocol standards it believes necessary to further our principles of spectrum sharing, open access and equal access among all unlicensed spectrum users."

Remarks of Commissioner Susan Ness:

"The rulemaking we are initiating forcefully demonstrates how wise spectrum management can deliver valuable new services to American homes, schools, businesses, and other institutions.

"The radio spectrum is a precious national resource. Responsible stewardship of the spectrum is a primary mission of this Commission. As part of that stewardship, I believe setting aside some portion of the spectrum for shared, unlicensed use is of demonstrable benefit. Today's Notice heralds a new generation of unlicensed devices, with great potential for innovation, economic growth, and international trade.

"Unlicensed devices include a growing array of products

that improve the quality of life. Cordless telephones, garage door openers, security and alarm systems, electronic toys, and baby monitors are some of the most notable examples of unlicensed devices found in the home or in the car.

"Unlicensed devices are also increasingly essential to businesses. Remote meter reading, medical patient monitoring, inventory control systems, and antipilferage systems are already widely deployed. Literally billions of dollars have already been invested in the development of unlicensed devices, and the benefits have been considerable.

"But the future holds still greater promise.

"Based on the WINForum and Apple Computer proposals which led us to initiate this rulemaking, I believe unlicensed devices using radio spectrum above 5 GHz can play a vital role in meeting established and incipient needs for communications offering mobility, flexibility, versatility, and economy.

"Especially enticing are the prospects for wireless local area networks to connect classroom computers to each other -- and to the world beyond. Low-power radio technology can serve as a low-cost, high-bandwidth, on-ramp to the Information Superhighway for the leaders and workers of tomorrow. Such an application would be directly responsive to the wishes of Congress, as reflected in Sections 254(b)(6), 254(c)(3), 254(h)(2) of the Communications Act of 1934, as amended, and Section 706 of the Telecommunications Act of 1996. Health care providers and their patients may also be among the main beneficiaries of this kind of technology.

"What is more, unlicensed devices are consistent with the objectives of reinventing government. The costs, fees, and delays of licensing can be avoided; equipment authorization can be streamlined, reducing time to market. Minimal technical standards to prevent harmful interference can leave maximum opportunities for innovation. A modest enabling gesture by government can give dozens or even hundreds of entrepreneurs incentives to translate good ideas into useful products.

"I am especially enthusiastic about the proposal tendered by WINForum for short-haul transmissions. The plan is sufficiently concrete that we can easily foresee how the promised benefits can be realized. The HIPERLAN experience proves the feasibility of spectrum sharing with mobile satellite services. International commonality maximizes the market base over which product development costs can be spread. Enabling simultaneous operation of multiple units at 24 Mbps will support computing, video, and multimedia applications, thereby meeting the needs of Information Age users.

"I am also intrigued by the Apple long-haul proposal, which contemplates low-cost broadband links from homes to schools and libraries. It may also solve some of the special problems of providing broadband service in rural areas. The use of higher power levels, however, requires that we proceed more cautiously. How do we prevent interference to the wireless LANs and other low-power unlicensed devices that will be sharing the same frequencies? Also, at what point do the characteristics of a service make it more appropriate for provision on a licensed basis? These and other questions remain to be answered.

"Because of the need for compatibility, I believe manufacturers of unlicensed products using shared frequency bands have strong marketplace incentives to develop a workable spectrum etiquette. As in the case of unlicensed PCS at 2 GHz, a spectrum etiquette may minimize the potential for interference while providing maximum flexibility for technological innovation and spectrum eff1ciency. I hope commenting parties will assist us in thinking through this issue.

"Overall, I believe we are on a course that will bring substantial benefits, with no intrusive governmental intervention. This is responsible spectrum management -- and good public policy. I look forward to completing this rulemaking expeditiously."

[At this point Commissioner Rachelle Chong questions OET's Tom Derenge as follows:]

Chong: "Tom, clarify for me. If these are unlicensed devices, how do they not interfere with each other, then. What is the technology that allows for lack of interference when they are operated close to each other?"

Derenge: "The low power promotes high spectrum reuse. What keeps them from interfering with each other when they are in close proximity to one another, is we're proposing a basic listen-before-talk protocol standard. So the device would have to monitor the channel for a couple of microseconds to see if it's available, then access it for a limited time, then release it for someone else to use."

Chong: "So there's a lot of frequency reuse within the band that would be allocated, and a sort of listen-before-you- transmit protocol. And that would be built into the device.

"I think this is an extremely creative proposal that's being made for these NII/SUPERNet devices. It's certainly going to bring Americans a new multimedia lane on the Information Superhighway. I do support the *Notice,* and one of the reasons I do is that if you look at what we currently allocate for unlicensed wireless services, it doesn't seem adequate for the types of innovative devices that Apple and WINForum are suggesting here.

"This is a pretty good chunk of spectrum that we're talking about, however. But it seems as if the amount of spectrum being requested is apparently necessary for these types of multimedia broadband applications. In my view there is no question that there's going to be a future demand for short range, high speed digital wireless communications, especially in the area of multimedia computer applications.

"And what I think is really great about this proposal is we're going to be reserving spectrum for devices, some of which we haven't even thought of yet. But some of the few applications that people already envision are to put into place wireless networks at schools, campuses, businesses, so that people can communicate and send data to each other very easily and wirelessly. So instead of having to string wires through walls, down hallways, you can just communicate wirelessly and get the data communicated within a small area.

"I've often suggested that we should be more pro-active in our spectrum management. I want to congratulate Apple, WINForum, our staff and the Commission for doing exactly that. They've brought to us a future need for something very exciting and we are going out of our way to anticipate this future demand and be responsive.

"I want to look carefully at the comments. I want to hear

from those industries that think there could be some interference problems to make sure that we think those through and protect against them. But I support this item and want to congratulate everybody on a very good item."

Remarks of FCC Chairman Reed Hundt:

"What can happen as we move through this process to an ultimate order is that we will clear out spectrum that can be used by the inventive genius of not only those companies that have raised this issue but anyone else, to provide wireless local area networks over short ranges.

"We will see high-speed voice, video and data transfer. This is acutely important to schools. Some of the oldest buildings in the country are school buildings and we don't have the money in this country, or at least we haven't decided to spend the money in this country to rebuild these schools.

"So there's a tremendous burden in building networks into the schools which is that the walls are hard to get through. It's as simple as that. And in many cases the schools are built with asbestos material that's sealed, and so there are extra costs involved in any construction project.

"The goal here is to let our industries figure out how to invent wireless local area networks that can connect classrooms within schools, within campuses, that could connect health care facilities that are in many different buildings without having to tear down or drill through the walls. This is an immensely important goal that potentially could save billions of dollars for the country.

"We have been mandated here at the FCC to make sure that every classroom is connected to the Information Highway. We are ordered under the law to make sure that advanced telecommunications services are affordable to everyone in the country, especially including kids in classrooms. But we don't want to say that these goals will only be met by yesterday's technology, we want to say that it's important to use tomorrow's technologies to meet these goals.

"I want to emphasize that the *Notice* is just about as deregulatory as we can get. It suggests that we should have rules that guard against interference, but beyond that we should not be setting standards, we should not be telling people how to invent their products to use the spectrum. We should let them go ahead and do what they think is best provided that the interference guards are real. That is the philosophy we ought to follow with respect to all spectrum."
[The Notice of Proposed Rule Making is voted and carries 4-0.]

Press Conference with Office of Engineering and Technology (OET) Chief Richard Smith and staff:

Question: "Are you proposing to entirely preclude longer range and higher power for community networks?"

Fred Thomas (OET): "What we propose is a very low power throughout both bands and solicit questions about whether we could allow higher power and longer distance communications. Basically the item now proposes only low power to accommodate local area networks."

Richard Smith (OET Chief): "We're thinking about short range, 50 to 100 meters, very low power, and there is also a question about longer range, maybe 10 kilometers. We simply ask a question about that; we don't propose longer range or higher power."

Question: "Is there a channelization imposed or similar structure?"

Thomas (OET): "No. We basically are interested in 20 or 25 MBPS data rate and we provide a flexibility in that regard, and ask the question about channelization."

Question: "Could you give a layman's explanation of what sort of equipment would be involved?"

Smith: "Prototypes we've seen are a laptop or PC, and built into that is a radio transmitter that would communicate to some central point in a school, hospital or large business office."

Question: "Did the Commission look at what the value of this spectrum would be if it were auctioned?"

Smith: "One of the advantages of unlicensed low power operation is that you can frequently fit this into spectrum that is also used for many other purposes. It is a way of squeezing out that last use of spectrum and is very efficient. The value is in the efficiency. I don't know that we have a specific idea of how you would charge for that because it would be somewhat difficult."

Question: "But you have never before given away 300 MHz. Even the valuable PCS licenses were small by comparison."

Smith: "This is not a giveaway in the sense that we've had Part 15 devices, millions and millions of Part 15 devices out there, cordless telephones. There are 50 million cordless telephones, garage door openers, the list is almost endless. These are unlicensed, low power operations. The concept of charging for licenses for these would become pretty burdensome. How do you get a license for something that's used only inside a building? It's very difficult."

Question: "Do you have any idea who the manufacturers are likely to be?"

Thomas: "Apple filed a petition so we expect they would. I would think most of the major manufacturers will look at this with great interest."

Question: "Did I hear there is also a longer range part that might be licensable?"

Smith: "Yes. There was a proposal or request for longer range, 10 to 15 kilometers. This would require higher power, perhaps directional, outdoor antennas. We are not proposing that, we are asking questions about that. And yes, those could and likely would be licensed, could be auctionable spectrum."

Question: "With regard to radar navigation, these are sensitive uses [already in the spectrum], and have you conducted research or anything that shows it won't affect how aircraft are guided?"

Smith: "Yes. The radar powers are so different here that there is just no way [radar would be affected]. We coordinate this very closely with the other government agencies involved here. ...We do think that the low power will facilitate sharing and already in the upper band are Part 15 devices already. ...Part 15 is shared with a number of different services."

TAPR REQUESTS SPREAD SPECTRUM STA

The Tucson Amateur Packet Radio Corporation has retained Goldberg, Godles, Wiener & Wright, one of the top Washington telecommunications law firms, to represent the organization. On April 10, TAPR filed the following STA with the FCC:

Request for Special Temporary Authority

The Tucson Amateur Packet Radio Corporation (TAPR), by its attorneys, hereby requests Special Temporary Authority (STA) for TAPR to conduct an experimental program to test Code Division Multiple Access ("CDMA") spread spectrum emissions over amateur radio facilities, as described in greater detail below. The STA is requested beginning as soon as possible and continuing for a period of one year. Except for the addition of one frequency band, as noted below, TAPR is requesting identical authority to that granted to Mr. Robert A. Buaas (K6KGS) on April 17, 1992.

TAPR was founded in 1982 as a international organization with interests in the areas of packet and digital communications. Today, TAPR continues as a membership supported non-profit amateur research and development organization, and currently has more than 2,000 members worldwide. TAPR continues to develop kits for the amateur community and is working actively on publications and communications standards.

TAPR's members have participated in a number of experimental programs designed to investigate the value of spread spectrum emissions for the packet radio community, including experiments that later provided the basis for authorizing spread spectrum modulation in the amateur service. TAPR plans to continue its leading role in developing standards for spread spectrum communications for the amateur community through discussion groups, cooperative efforts and experimental programs such as would be permitted by the requested STA.

In particular, because of the rapid development of communications hardware and software, TAPR believes that the use of hybrid spread spectrum emissions, as well as spreading codes not envisioned by Section 97.311(d) of the Rules can be employed without causing harmful interference to other amateur operators.

TAPR proposes to implement an m-sequence as specified in Section 97.311(d)(1) of the Rules as a "generating function." Spreading codes will be selected from continuous segments of bits produced in the output of the generating function based on their suitability to provide uniformly distributed spectral density, code orthogonality and maximum coding gain. Each spreading code will represent one symbol in the data to be transmitted. Only the selected spreading codes will be transmitted, and each will be transmitted in its entirety.

Direct-sequence spread spectrum generators using inexpensive surface acoustic wave matched filters with fixed spreading codes not related to the m-sequences specific in Section 97.31(d)(1) will also be used.

Frequency hopping may be evaluated as a means for further distributing the transmitted energy. Additionally, frequency synthesized homodyne and single heterodyne transceivers will be evaluated on each of the frequency bands proposed, time and resources permitting.

TAPR is requesting STA to fully evaluate the transmission, reception and processing techniques of CDMA spread spectrum emissions. Specifically, TAPR will:

- Assess the strengths and weaknesses of the proposed systems;
- Evaluate the potential of spread spectrum overlay on conventional FM systems;
- Study the interference potential of CDMA spread spectrum emissions, if any, to existing users of the specified frequency bands;
- Evaluate the resistance of spread spectrum emissions to multipath interference;
- Evaluate the ability of spread spectrum emissions to improve spectrum efficiency;
- Evaluate the performance improvements potentially offered by CDMA technology;
- Gain operational experience with CDMA spread spectrum techniques; and
- Evaluate the proposals contained in the RM-8737 (Amendment of Part 97 of the Commission's Rules Governing the Amateur Radio Service to Facilitate Spread Spectrum Communications).

The participants in this experiment will initially be various members of TAPR who are amateur radio licensees. TAPR requests authority to add participants, including licensed amateurs who are not members of TAPR, during the course of the experimental program upon notification to the Commission of such additions. The experiments will be carried out from the fixed stations listed on the station licenses of the participants, plus any portable operations as are permitted under Part 97 of the Commission's Rules. All participants hold a minimum of a Technician Class license.

TAPR requests authority to operate on the following frequencies: 50-54 MHz, 144-148 MHz, 219-220 MHz, 222-225 MHz, 420-450 MHz, 902-928 MHz, 1240-1300 MHz and 2390-2450 MHz.

The operational frequencies requested herein are identical to those granted to Mr. 8uaas, except for the 219-220 MHz band, which was not allocated to the Amateur Radio Service at the time Mr. Buaas filed his STA request. To the extent that the addition of the 219-220 MHz band will significantly delay Commission grant of the instant STA request, TAPR requests that the STA be granted as soon as possible for all frequency bands other than 219-220 MHz, and that the 219-220 MHz request be processed separately. The maximum transmitter output power will not exceed 100 watts, and CDMA spread spectrum emissions will be used.

TAPR expects that the antennas used for this experimental program will include dipoles, as well as collinear and Yagi arrays with gains of 0 to 12 dBi, at heights up to 30 meters AGL. Only existing, licensed antennas will be used for this experiment; no new stations will be constructed.

In order to conduct the tests discussed in this letter, TAPR requests the following Rule waivers:

(1) Waiver of Section 97.305(c) of the Rules is requested to permit emission type SS in the bands 6m, 2m, and 1.25m;
(2) Waiver of Section 97.311(c) of the Rules is requested to provide for transmission of hybrid spread spectrum emissions;
(3) Waiver of Section 97.311(d) of the Rules is requested to permit the use of other spreading codes.

Accordingly, for the reasons stated herein, TAPR respectfully requests Special Temporary Authority to conduct an experimental program to test CDMA spread spectrum emissions over amateur radio facilities, as described in the instant STA request. Questions with respect to this matter should be directed to the undersigned.

Respectfully submitted, Henry Goldberg, Attorney for the Tucson Amateur Packet Radio Corporation.